What is claimed is:

1. A key exchange proxy network system performing, as proxy, a key exchange processing to be performed between a first terminal unit and a second terminal unit for encryption communication therebetween, said key exchange proxy network system comprising:

a first service control unit accessed by the first terminal unit, and a first key exchange proxy unit performing the key exchange processing as proxy for the first terminal unit;

wherein the first service control unit comprises:

a first message reception section receiving a message from the first terminal unit, or the second terminal unit, or the first key exchange proxy unit;

a first protocol control section which retains a first data for deciding whether the message received by the first message reception section is a key exchange message or a message including a key, decides whether the reception message is the key exchange message or the message including the key based on said first data, determines the first key exchange proxy unit as transfer destination when the reception message is the key exchange message received from either the first terminal unit or the second terminal unit, determines the second terminal unit as transfer destination when the reception message is the key exchange message received from the first key exchange proxy unit, and determines the first terminal unit as transfer destination

when the reception message is the message including the key; and

a first message transmission section transmitting the message received by the first message reception section to the transfer destination determined by the first protocol control section,

and the first key exchange proxy unit comprises:

a second message reception section receiving the message from the first service control unit;

a second protocol control section which exchanges the key exchange message with the second terminal unit, and determines the key, when the message received by the second message reception section is the key exchange message; and

a second message transmission section transmitting the key determined by the second protocol control section to the first service control unit as message including the key.

2. The key exchange proxy network system according to claim 1,

wherein, triggered by reception of the key exchange message from the first terminal unit, the second protocol control section determines the key with the second terminal unit.

3. The key exchange proxy network system according to claim 1,

wherein, triggered by reception of the key exchange message from the second terminal unit, the second protocol control section determines the key with the second terminal unit.

4. The key exchange proxy network system according to any one of claim 1, further comprising:

a second service control unit accessed by the second terminal unit, and a second key exchange proxy unit performing the key exchange processing as proxy for the second terminal unit,

wherein the second service control unit comprises:

a third message reception section receiving a message from the first terminal unit, or the second terminal unit, or the second key exchange proxy unit;

a third protocol control section which retains a second data for deciding whether the message received by the third message reception section is a key exchange message or a message including a key, decides whether the reception message is the key exchange message or the message including the key based on the second data, determines the second key exchange proxy unit as transfer destination when the reception message is the key exchange message received from either the first terminal unit or the second terminal unit, determines the first terminal unit as transfer destination when the reception message is the key exchange message received from the second key exchange proxy unit, and

determines the second terminal unit as transfer destination when the reception message is the message including the key; and

a third message transmission section transmitting the message received by the third message reception section to the transfer destination determined by the third protocol control section,

and the second key exchange proxy unit comprises:

a fourth message reception section receiving the message from the second service control unit;

a fourth protocol control section which exchanges the key exchange message with the first key exchange proxy unit, and determines the key, when the message received by the fourth message reception section is the key exchange message; and

a fourth message transmission section transmitting the key determined by the fourth protocol control section to the second service control unit as message including the key.

5. The key exchange proxy network system according to any one of claim 2, further comprising:

a second service control unit accessed by the second terminal unit, and a second key exchange proxy unit performing the key exchange processing as proxy for the second terminal unit,

wherein the second service control unit comprises:

a third message reception section receiving a message from the first terminal unit, or the second terminal unit, or the second key exchange proxy unit;

a third protocol control section which retains a second data for deciding whether the message received by the third message reception section is a key exchange message or a message including a key, decides whether the reception message is the key exchange message or the message including the key based on the second data, determines the second key exchange proxy unit as transfer destination when the reception message is the key exchange message received from either the first terminal unit or the second terminal unit, determines the first terminal unit as transfer destination when the reception message is the key exchange message received from the second key exchange proxy unit, and determines the second terminal unit as transfer destination when the reception message is the message including the key; and

a third message transmission section transmitting the message received by the third message reception section to the transfer destination determined by the third protocol control section,

and the second key exchange proxy unit comprises:

a fourth message reception section receiving the message from the second service control unit;

a fourth protocol control section which exchanges the key exchange message with the first key exchange proxy unit,

and determines the key, when the message received by the fourth message reception section is the key exchange message; and

a fourth message transmission section transmitting the key determined by the fourth protocol control section to the second service control unit as message including the key.

6. The key exchange proxy network system according to any one of claim 3, further comprising:

a second service control unit accessed by the second terminal unit, and a second key exchange proxy unit performing the key exchange processing as proxy for the second terminal unit,

wherein the second service control unit comprises:

a third message reception section receiving a message from the first terminal unit, or the second terminal unit, or the second key exchange proxy unit;

a third protocol control section which retains a second data for deciding whether the message received by the third message reception section is a key exchange message or a message including a key, decides whether the reception message is the key exchange message or the message including the key based on the second data, determines the second key exchange proxy unit as transfer destination when the reception message is the key exchange message received from either the first terminal unit or the second terminal unit,

determines the first terminal unit as transfer destination when the reception message is the key exchange message received from the second key exchange proxy unit, and determines the second terminal unit as transfer destination when the reception message is the message including the key; and

a third message transmission section transmitting the message received by the third message reception section to the transfer destination determined by the third protocol control section,

and the second key exchange proxy unit comprises:

a fourth message reception section receiving the message from the second service control unit;

a fourth protocol control section which exchanges the key exchange message with the first key exchange proxy unit, and determines the key, when the message received by the fourth message reception section is the key exchange message; and

a fourth message transmission section transmitting the key determined by the fourth protocol control section to the second service control unit as message including the key.

7. The key exchange proxy network system according to claim 4,

wherein the first service control unit and the second service control unit are comprised of an identical unit.

8. The key exchange proxy network system according to claim 5,

wherein the first service control unit and the second service control unit are comprised of an identical unit.

9. The key exchange proxy network system according to claim 6,

wherein the first service control unit and the second service control unit are comprised of an identical unit.

10. The key exchange proxy network system according to claim 4,

wherein the first key exchange proxy unit and the second key exchange proxy unit are comprised of an identical unit.

11. The key exchange proxy network system according to claim 5,

wherein the first key exchange proxy unit and the second key exchange proxy unit are comprised of an identical unit.

12. The key exchange proxy network system according to claim 6,

wherein the first key exchange proxy unit and the second key exchange proxy unit are comprised of an identical unit.

13. The key exchange proxy network system according

to claim 7,

wherein the first key exchange proxy unit and the second key exchange proxy unit are comprised of an identical unit.

14. The key exchange proxy network system according to claim 8,

wherein the first key exchange proxy unit and the second key exchange proxy unit are comprised of an identical unit.

15. The key exchange proxy network system according to claim 9,

wherein the first key exchange proxy unit and the second key exchange proxy unit are comprised of an identical unit.

16. A service control unit accessed by a terminal unit, transferring a message from any one of said terminal unit, and a key exchange proxy unit performing a key exchange processing as proxy for said terminal unit, and an opposite terminal unit for encryption communication with said terminal unit, said service control unit comprising:

a message reception section receiving a message from the terminal unit, or the key exchange proxy unit, or the opposite terminal unit;

a protocol control section which retains a data for deciding whether the message received by the message reception section is a key exchange message or a message including a key, decides whether the reception message is

the key exchange message or the message including the key based on said data, determines the key exchange proxy unit as transfer destination when the reception message is the key exchange message received from either the terminal unit or the opposite terminal unit, determines the opposite terminal unit as transfer destination when the reception message is the key exchange message received from the key exchange proxy unit, and determines the terminal unit as transfer destination when the reception message is the message including the key; and

a message transmission section transmitting the reception message to the transfer address determined by the protocol control section.

17. The service control unit according to claim 16,

wherein the data is a service profile provided on a per terminal unit basis, including an address and a port number designating an application, and

the protocol control section compares either a destination address or a source address included in the message received by the message reception section with the address included in the service profile, and compares the port number included in the reception message with the port number included in the service profile, and thereby determines whether the reception message is the key exchange message or the message including the key.

18. A key exchange proxy unit performing a key exchange processing with an opposite terminal unit as proxy for a terminal unit to perform encryption communication to the opposite terminal unit, said key exchange proxy unit comprising:

a message reception section receiving the message from service control unit which is accessed by the terminal unit, and transfers a message received from either the terminal unit or the opposite terminal unit;

a protocol control section which exchanges a key exchange messages with the opposite terminal unit, and determines the key, when the message received by the message reception section is the key exchange message; and

a message transmission section which transmits the key determined by the protocol control section to the service control unit as the message including the key.

19. The key exchange proxy unit according to claim 18, further comprising:

a key generation section generating the key.

20. The key exchange proxy unit according to claim 18,

wherein, triggered by reception of the key exchange message from the terminal unit, the protocol control section determines the key with the opposite terminal unit.

21. The key exchange proxy unit according to claim 19,

wherein, triggered by reception of the key exchange message from the terminal unit, the protocol control section determines the key with the opposite terminal unit.

22. The key exchange proxy unit according to claim 18,

wherein, triggered by reception of the key exchange message from the opposite terminal unit, the protocol control section determines the key with the opposite terminal unit.

23. The key exchange proxy unit according to claim 19,

wherein, triggered by reception of the key exchange message from the opposite terminal unit, the protocol control section determines the key with the opposite terminal unit.

24. A terminal unit accessing a service control unit in a communication network and performing encryption communication with an opposite terminal unit, said terminal unit comprising:

an encryption process management section which retains a first data specifying a communication condition requiring encryption and a second data including a key for use in

the encryption, decides whether encryption is required for the communication with the opposite terminal unit based on the first data, and decides whether the key required for the encryption is existent in the second data;

a message transmission section which transmits a key exchange message to the opposite terminal unit through the service control unit, when the encryption process management section decides that the encryption is required and that the key required for the encryption is not existent; and

a message reception section which receives the message including the key determined between a key exchange proxy unit in the communication network and the opposite terminal unit from the service control unit.

25. The terminal unit according to claim 24,

wherein the first data includes an address of the opposite terminal unit for which encryption communication is required, and a port number designating an application, and

the encryption process management section compares a destination address of the message to be transmitted to the opposite terminal unit with the address in the first data, compares the port number included in the transmission message with the port number included in the first data, and thereby decides whether the encryption is required in the communication with the opposite terminal unit.

26. The terminal unit according to claim 24,

wherein the second data includes an address, a port number, an encryption protocol and a key for use in the encryption, and

the encryption process management section compares the address in the first data with the address in the second data, compares the port number in the first data with the port number in the second data, and thereby decides whether the key required for the encryption is existent in the second data.

27. The terminal unit according to claim 25,

wherein the second data includes an address, a port number, an encryption protocol and a key for use in the encryption, and

the encryption process management section compares the address in the first data with the address in the second data, compares the port number in the first data with the port number in the second data, and thereby decides whether the key required for the encryption is existent in the second data.

28. A key exchange proxy method for a key exchange proxy network system having a key exchange proxy unit performing a key exchange processing between a first terminal unit and a second terminal unit as proxy for the

first terminal unit for encryption communication between the terminal units, said key exchange proxy method comprising:

in the service control unit, transferring a key exchange message received from either the first terminal unit or the second terminal unit to the key exchange proxy unit;

in the key exchange proxy unit, generating the key exchange message to be exchanged between the first terminal unit and the second terminal unit, and transmitting the generated key exchange message to the service control unit;

in the service control unit, transferring the key exchange message to the second terminal unit;

in the key exchange proxy unit, transmitting to the service control unit a message including the key determined by exchanging the key exchange messages; and

in the service control unit, transferring to the first terminal unit the message including the key received from the key exchange proxy unit.

29. A key exchange proxy network system performing, as proxy, a key exchange processing to be performed between a first terminal unit and a second terminal unit for encryption communication therebetween, said key exchange proxy network system comprising:

a service control unit accessed by the first terminal unit; and

a key exchange proxy unit performing the key exchange processing as proxy for the first terminal unit,

wherein the service control unit transfers either a key exchange proxy request message received from the first terminal unit, or a key exchange message received from the second terminal unit, to the key exchange proxy unit based on a service profile provided for deciding a transfer destination of a reception message, transfers the key exchange message received from the key exchange proxy unit to the second terminal unit, and transfers a message including the key received from the key exchange proxy unit to the first terminal unit, and

the key exchange proxy unit exchanges the key exchange message between the key exchange proxy unit and the second terminal unit through the service control unit, and thereby determines the key, and transmits the message including the determined key to the first terminal unit through the service control unit.